

What is claimed is

1. A communication system for propagating multimedia data through a local television (TV) broadcasting channel as downstream data transfer to a plurality of  
5 customer premise equipment, and for receiving at least one customer's request through a telephone network as upstream data transfer, said communication system comprising:

a broadcasting control center for receiving at least one customer's request from at least one customer premise, and for transmitting broadcasting applying signal to a local broadcasting center corresponding to a customer's request; and

- 10 at least one local broadcasting center coupled to said broadcasting control center and the plurality of customer premise equipment, for propagating multimedia data corresponding to the customer's request through local TV broadcasting channels to the plurality of customer premise equipment corresponding to the broadcasting applying signal received from said broadcasting control center.

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2. The communication system as in claim 1, wherein the telephone network is coupled to automatic response service (ARS) system.

3. The communication system as in claim 1, wherein said broadcasting control center comprises:

a database for storing at least one selected from the group consisting of customer's information, a summary of multimedia data, and summary related to said

5 local broadcasting centers;

an automatic response service (ARS) server for receiving at least one customer's request from the at least one customer premise equipment, and providing service comments to at least one customer premise equipment through the telephone network; and

10 a controller for providing a broadcasting applying signal to said at least one local broadcasting center coupled to the at least one customer premise equipment according to the customer's request, the broadcasting applying signal comprises at least one selected from the group consisting of customer's information, a summary of the multimedia data, and summary related to said local broadcasting center.

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4. The communication system as in claim 3, wherein the summary of the local broadcasting center comprises at least one selected from the group consisting of a local broadcasting center code, a local area code, and a local TV broadcasting channel code.

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5. The communication system as in claim 3, wherein the summary of the multimedia data comprises multimedia data code, which is used for representing multimedia data.

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6. The communication system as in claim 3, wherein said controller comprises:

a router for receiving multimedia data from at least one information service provider (ISP) through the Internet; and

a multimedia processor for generating at least one multimedia data code, storing the multimedia data code, and providing the multimedia data to said at least one local broadcasting center.

- 5                   7.       The communication system as in claim 1, wherein the broadcasting applying signal comprises at least one selected from the group consisting of a transmission code, a response code, a request code, a multimedia data code, and a checksum code, wherein the transmission code comprises a transmission date and a transmission time, the response code is used for certifying arrival of the broadcasting  
10   applying signal, the request code comprises a request data and a request time, and the checksum code is used for representing error of transmission.

8.       The communication system as in claim 1, wherein said at least one local broadcasting center comprises:

- 15       a database for storing multimedia data, which are used for propagating through a local TV broadcasting channel;  
a receiver for receiving the broadcasting applying signal from said broadcasting control center;  
a schedule manager for detecting multimedia data from the database  
20   corresponding to the broadcasting applying signal, and for controlling the propagation time of the detected multimedia data;  
a converter for converting the detected digital multimedia data into analog multimedia data;  
a caption editor for generating analog broadcasting signal added caption data,  
25   wherein the caption data are displayed on TV within the customer premise equipment; and  
a broadcasting controller for controlling the propagation of the analog broadcasting signal to plurality of customer premise equipment limited service area through the local TV broadcasting channel.

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9. The communication system as in claim 8, wherein said schedule manager comprises a buffer for storing the analog broadcasting signal temporarily in order to propagate it through the local TV broadcasting channel in order of customers' requests.

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10. The communication system as in claim 8, wherein the caption data comprises at least one selected from the group consisting of an automatic response service (ARS) phone number, a local area code, a local broadcasting center code, a TV channel code, a serviceable multimedia data code, a standby multimedia data code and a playing time of the standby multimedia data.

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11. The communication system as in claim 8, wherein said local broadcasting center further comprises at least one broadcasting monitor in order to check screen condition and transmission condition of the multimedia data.

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12. A method for propagating multimedia data through local television (TV) broadcasting channel as downstream data transfer to at least one customer premise equipment, and for receiving customer's request through a telephone network as upstream data transfer from at least one the customer premise equipment, the method

5 comprising the steps of:

storing multimedia data in a database of at least one local broadcasting center,  
storing a summary of multimedia data in a database of the broadcasting control center, wherein the summary of multimedia data are used for representing each multimedia data in local broadcasting centers;

10 receiving at least one customer's request from at least one customer premise equipment through the telephone network as upstream data transfer;

generating a broadcasting applying signal according to the at least one customer's request, wherein the broadcasting applying signal comprises at least one selected from the group consisting of customers' information, a summary of multimedia data, and a summary related to local broadcasting center;

15 transmitting the broadcasting applying signal to the local broadcasting center coupled to the customer premise equipment according to the customer's request;  
detecting desired multimedia data from the local broadcasting center's database according to the broadcasting applying signal;

20 converting the detected digital multimedia data to analog broadcasting signal;  
and

propagating the analog broadcasting signal to plurality of customer premise equipment limited service area through the local TV broadcasting channel.

25 13. The method for propagating multimedia data as in claim 12, wherein the summary of local broadcasting center comprises at least one selected from the group consisting of a local broadcasting center code, a local area code, and a TV channel code.

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14. The method for propagating multimedia data as in claim 12, wherein the summary of multimedia data is a code for representing multimedia data.

15. The method for propagating multimedia data as in claim 12, wherein the broadcasting applying signal comprises at least one selected from the group consisting of a transmission code, a response code, a request code, a multimedia data code, and a checksum code, wherein the transmission code comprises a transmission date and a transmission time, the response code is used for certifying arrival of the broadcasting applying signal, the request code comprises a request data and a request time, the checksum code is used for checking error of transmission.

16. The method for propagating multimedia data as in claim 12, wherein said step of converting detected digital multimedia data to analog broadcasting signal comprises the step of:

15 adding caption data to the analog broadcasting signal, wherein the caption data are displayed on TV within the customer premise equipment.

17. The method for propagating multimedia data as in claim 16, wherein the caption data comprises at least one selected from the group consisting of an automatic response service (ARS) phone number, a local area code, a local broadcasting center code, a TV channel code, a serviceable multimedia data code, a standby multimedia data code, and a playing time of the standby multimedia data.

18. A communication system for providing broadcasting applying signal to a local broadcasting center according to a customer's request, and for receiving the customer's request through a telephone network as upstream data transfer from at least one customer premise equipment, wherein the broadcasting applying signal is used for  
5 applying propagation of a multimedia data through a local television (TV) broadcasting channel as downstream data transfer to plurality of customer premise equipment, said communication system comprising:

a database for storing at least one selected from the group consisting of the customers' information, a summary of multimedia data, and a summary related to at  
10 least one local broadcasting center;

an automatic response service (ARS) server for receiving the customer's request, and providing service comments to the customer premise equipment through the telephone network;

a generator for generating the broadcasting applying signal, wherein the  
15 broadcasting applying signal comprises at least one selected from the group consisting of customer's information, a summary of the multimedia data, and a summary related to the local broadcasting center; and

a transmitter for transmitting the broadcasting applying signal to the local  
broadcasting center coupled to the customer premise equipment according to the  
20 customer's request.

19. A method for transmitting broadcasting applying signal to a local broadcasting center, the broadcasting applying signal is used for applying propagation of multimedia data through a local television (TV) broadcasting channel as downstream data transfer to plurality of customer premise equipment, and for receiving customer's request through a telephone network as upstream data transfer from at least one customer premise equipment, the method comprising the steps of:
- storing a summary of multimedia data and a summary related to at least one local broadcasting center, wherein the multimedia data are stored in the at least one local broadcasting center;
- receiving at least one customer's request from at least one customer premise equipment through the telephone network as upstream data transfer;
- generating a broadcasting applying signal, which is comprised of at least one selected from the group consisting of customer's information, a summary of the multimedia data, and a summary related to the local broadcasting center; and
- transmitting the broadcasting applying signal to the local broadcasting center coupled to the customer premise equipment according to the customer's request.



20. A communication system for propagating multimedia data through a local television (TV) broadcasting channel as downstream data transfer to plurality of customer premise equipment according to at least one customer's request, and receiving a broadcasting applying signal from a broadcasting control center according to the

5 customer's request, wherein the customer's request is provided through a communication channel as upstream data transfer from at least one customer premise equipment, said communication system comprising:

- a database for storing multimedia data, wherein the multimedia data are propagated through the local TV broadcasting channel;
- 10 a receiver for receiving the broadcasting applying signal from the broadcasting control center, wherein the broadcast applying signal comprises at least one selected from the group consisting of at least customer's information, a summary of the multimedia data, and a summary related to the local broadcasting center;
- a schedule manager for detecting the requested multimedia data from said
- 15 database according to the broadcasting applying signal, and for controlling the propagation time of the detected multimedia data;
- a converter for converting the detected digital multimedia data to analog multimedia data;
- a caption editor for generating analog broadcasting signal added caption data,
- 20 wherein the caption data are displayed on TV within customer premise equipment; and
- a broadcasting controller for controlling the propagation of the analog broadcasting signal to a plurality of customer premise equipment limited service area through the local TV broadcasting channel.

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21. A method for propagating multimedia data through local television (TV) broadcasting channel as downstream data transfer to a plurality of customer premise equipment according to a customer's request, and for receiving a broadcasting applying signal from a broadcasting control center according to the customer's request, the customer's request is provided through a communication channel as upstream data transfer from at least one customer premise equipment, the method comprising the steps of:
- storing multimedia data, the multimedia data are used for propagating through the local TV broadcasting channel;
  - receiving the broadcasting applying signal from the broadcasting control center, wherein the broadcasting applying signal comprises at least one selected from the group consisting of at least one customer's information, a summary of the multimedia data, and a summary related to the local broadcasting center;
  - detecting a requested digital multimedia data from a database;
  - converting the detected digital multimedia data to analog multimedia data;
  - generating an analog broadcasting signal added caption data, wherein the caption data are displayed on TV within the customer premise equipment; and
  - propagating the analog broadcasting signal to a plurality of customer premise equipment limited service area through the local TV broadcasting channel according to a broadcasting schedule.

22. A communication system for propagating multimedia data through a local television (TV) broadcasting channel as downstream data transfer to a plurality of customer premise equipment, and for receiving at least one customer's request through the Internet as upstream data transfer from at least one customer premise equipment,

5 said communication system comprising:

a broadcasting control center for receiving at least one customer's request from at least one customer premise equipment, and for transmitting a broadcasting applying signal to the local broadcasting center according to the customer's request; and

10 at least one of local broadcasting center coupled to said broadcasting control center and said plurality of the customer premise equipment, for propagating multimedia data through the local TV broadcasting channel to the plurality of the customer premise equipment limited service area according to the broadcasting applying signal from the broadcasting control center.

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23. A method for propagating multimedia data through a local television (TV) broadcasting channel as downstream data transfer to plurality of customer premise equipment, and for receiving at least one customer's request through the Internet as upstream data transfer from at least one customer premise equipment, the method

5 comprising the steps of:

storing multimedia data in a database of at least one local broadcasting center,  
storing a summary of multimedia data in a database of the broadcasting control center, the summary of multimedia data is used for representing multimedia data in local broadcasting centers;

10 receiving at least one customer's request from the customer premise equipment through the Internet as upstream data transfer;

generating a broadcasting applying signal according to the customer's request, the broadcasting applying signal comprises at least one selected from the group consisting of at least one customer's information, a summary of multimedia data and a  
15 summary related to local broadcasting center;

transmitting the broadcasting applying signal to the local broadcasting center according to the customer's request;

detecting desired multimedia data from local broadcasting center's database according to the broadcasting applying signal;

20 converting the detected digital multimedia data to a analog broadcasting signal;  
and

propagating the analog broadcasting signal to the plurality of customer premise equipment limited service area according to the customer's request through local TV broadcasting channel as downstream data transfer.

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24. A computer-readable medium having stored thereon computer-executable instructions for performing the steps comprising:
- storing multimedia data in a database of at least one local broadcasting center,
  - storing a summary of multimedia data in a database of the broadcasting control
  - 5 center, wherein the summary of multimedia data are used for representing each multimedia data in local broadcasting centers;
  - receiving at least one customer's request from at least one customer premise equipment through the telephone network as upstream data transfer;
  - generating a broadcasting applying signal according to the at least one
  - 10 customer's request, wherein the broadcasting applying signal comprises at least one selected from the group consisting of customers' information, a summary of multimedia data, and a summary related to local broadcasting center;
  - transmitting the broadcasting applying signal to the local broadcasting center coupled to the customer premise equipment according to the customer's request;
  - 15 detecting desired multimedia data from the local broadcasting center's database according to the broadcasting applying signal;
  - converting the detected digital multimedia data to analog broadcasting signal;
  - and
  - propagating the analog broadcasting signal to plurality of customer premise
  - 20 equipment limited service area through the local TV broadcasting channel.

25. A computer-readable medium having stored thereon computer-executable instructions for performing the steps comprising:

storing a summary of multimedia data and a summary related to at least one local broadcasting center, wherein the multimedia data are stored in the at least one

5 local broadcasting center;

receiving at least one customer's request from at least one customer premise equipment through the telephone network as upstream data transfer;

generating a broadcasting applying signal, which is comprised of at least one selected from the group consisting of customer's information, a summary of the

10 multimedia data, and a summary related to the local broadcasting center; and

transmitting the broadcasting applying signal to the local broadcasting center coupled to the customer premise equipment according to the customer's request.

26. A computer-readable medium having stored thereon computer-executable instructions for performing the steps comprising:

storing multimedia data, the multimedia data are used for propagating through the local television (TV) broadcasting channel;

- 5 receiving the broadcasting applying signal from the broadcasting control center, wherein the broadcasting applying signal comprises at least one selected from the group consisting of at least one customer's information, a summary of the multimedia data, and a summary related to the local broadcasting center;

detecting a requested digital multimedia data from a database;

- 10 converting the detected digital multimedia data to analog multimedia data;

generating an analog broadcasting signal added caption data, wherein the caption data are displayed on TV within the customer premise equipment; and

propagating the analog broadcasting signal to a plurality of customer premise equipment limited service area through the local TV broadcasting channel according to

- 15 a broadcasting schedule.

27. A computer-readable medium having stored thereon computer-executable instructions for performing the steps comprising:
- storing multimedia data in a database of at least one local broadcasting center,
  - storing a summary of multimedia data in a database of the broadcasting control
  - 5 center, the summary of multimedia data is used for representing multimedia data in local broadcasting centers;
  - receiving at least one customer's request from the customer premise equipment through the Internet as upstream data transfer;
  - generating a broadcasting applying signal according to the customer's request,
  - 10 the broadcasting applying signal comprises at least one selected from the group consisting of at least one customer's information, a summary of multimedia data and a summary related to local broadcasting center;
  - transmitting the broadcasting applying signal to the local broadcasting center according to the customer's request;
  - 15 detecting desired multimedia data from local broadcasting center's database according to the broadcasting applying signal;
  - converting the detected digital multimedia data to a analog broadcasting signal;
  - and
  - propagating the analog broadcasting signal to the plurality of customer premise
  - 20 equipment limited service area according to the customer's request through local TV broadcasting channel as downstream data transfer.